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July 19, 2007

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: **Comments on the Application of Modern Portfolio Theory to Utility Resource Planning**
Docket No. 06-IEP-1M
2007 IEPR Portfolio Analysis

Dear Commissioners:

San Diego gas & Electric has participated in the two IEPR sponsored workshops on the application of modern portfolio theory to electric utility resource planning and appreciates this further opportunity to comment. We applaud the Commissions efforts to improve the state of the art of resource planning but believe that there are several problems of implementing portfolio theory in the current planning and policy environment. We will touch here on the most evident of those issues and would hope that staff's report on resource planning will reflect the concerns stated herein.

First, we realize that analytical tools, whether forecasting or portfolio analysis or some other quantitative or statistical tool, are only as good as the input data. In the examples that the Commission's consultants used in the latest workshop (July 11), it was pointed out several times that they had made simplifying assumptions about the future costs of various resources. While this is not uncommon in resource planning, the fact that projections for the portfolio analysis extend considerably further into the future than do most utility resource plans makes this especially troublesome. Fuel costs and technology costs in particular are hard to estimate and harder still to have confidence in far forward projections. In addition, portfolio analysis results may be quite sensitive to the interrelationships of the input variables -- correlations and co-variances of costs, for example. Since many of these are largely unknown, we are concerned that assumptions about their relationships may cause grossly erroneous results upon which future policy may be based.

Second, we believe that the situation facing the utilities and the state in resource planning is far more complex than has been captured in the illustrative analysis presented as an example. Resource choices are many and costs and other characteristics -- even within a generic resource type -- vary. Public policy initiatives further complicate the long-term planning landscape. Should this portfolio analysis have taken place a decade ago it is doubtful it could have captured the influence of policies on greenhouse gases, renewable resource portfolio requirements, the California Solar Initiative or other policy shifts that are present today.

Third, the three investor-owned utilities do not constitute the only resource planners or owners within the state. If portfolio analysis were to be used it would seem that the most appropriate or most granular respondent would be the load serving entity that has to plan for and acquire the resources to meet their subscribed load. This may be particularly true in a new age of direct access.

Finally, SDG&E has a few observations about the application of modern portfolio theory to the realities of its resource planning requirements. Much of the utility's resource plan is dictated to it prior to the utility doing its procurement process. A staff report on the applicability of portfolio analysis should clearly state the various mandates the utilities must follow, including the loading orders dictated in the Energy Action Plan II developed by the state's energy agencies and the renewable portfolio mandates. Green house gas goals will likely further limit the utility's resource options.

Given that utilities are already required to follow the state's preferred loading order for resources -- starting with energy efficiency, demand response and renewable power -- by the time the utility is looking to fill its resource needs it is often limited to finding resources that meet the policy mandates at the lowest possible cost to customers, while at the same time addressing operational issues such as location and operating needs. Thus, SDG&E would suggest that, should the Commission elect to continue this line of research, it should first be targeted at helping policy makers set state-wide targets rather than being focused at each utility. Alternatively, staff may want to undertake an analysis of how well modern portfolio theory applies when there are multiple constraints on the portfolio as the theory arises in a setting where there are little or no constraints on the portfolio.

SDG&E would also find it helpful for the Commission to tie the work on this topic to the scenario work being done in the IEPR process. Moreover, SDG&E would find an explanation of a number of items helpful in pulling all this work together. For example, we would like to know how operational issues can be included in the portfolio analysis. During the scenario workshop, a number of parties, including the ISO, expressed concern about the operational issues that could occur within the state while achieving just a 30% mix of renewable power. Yet some of the results shown at the portfolio analysis workshop had portfolios with as much as 60% renewable power.

Once again, SDG&E appreciates the opportunity to comment on the presentation made at the workshop and hopes that our comments will be given thoughtful consideration in the development of the staff issue paper that is to be developed to inform policy recommendations in the 2007 IEPR.

Yours sincerely,

Bernie Orozco